

## Abstract

A semiconductor component includes a substrate, bonding  
5 pads on the substrate, and external contacts bonded to the  
bonding pads. Exemplary external contacts include solder  
balls, solder bumps, solder columns, TAB bumps and stud  
bumps. Preferably the external contacts are arranged in a  
dense array, such as a ball grid array (BGA), or fine ball  
10 grid array (FBGA). The component also includes a polymer  
support member configured to strengthen the external  
contacts, absorb forces applied to the external contacts, and  
prevent separation of the external contacts from the bonding  
pads. In a first embodiment, the polymer support member  
15 comprises a cured polymer layer on the substrate, which  
encompasses the base portions of the external contacts. In a  
second embodiment, the polymer support member comprises  
support rings which encompass the base portions of the  
external contacts. In either embodiment the polymer support  
20 member transfers forces applied to the external contacts away  
from the interface with the bonding pads, and into the center  
of the contacts.